

PDP-11 FORTRAN-77 DEBUG

Installation Guide/Release Notes

Order No. AA-X650A-TK

August 1983

This guide describes the procedures for installing PDP-11 FORTRAN-77 DEBUG on the RSX-11M/M-PLUS, RSTS/E, and VAX/VMS operating systems.

SUPERSESSION/UPDATE INFORMATION: This is a new document for this release.

OPERATING SYSTEM AND VERSION:

- RSX-11M V4.1
- RSX-11M-PLUS V2.1
- RSTS/E V8.0
- VAX/VMS V3.2

SOFTWARE VERSION:

- PDP-11 FORTRAN-77 DEBUG V1.0

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PREFACE

MANUAL OBJECTIVES

This manual describes the procedures used to install PDP-11 FORTRAN-77 DEBUG on the RSX-11M/M-PLUS, RSTS/E, and VAX/VMS (under AME) operating systems, using a magnetic tape or disk distribution kit or, in the case of VAX/VMS, a floppy disk or a TU58.

INTENDED AUDIENCE

This manual is intended for the system manager, who should be familiar with the host system before installing the PDP-11 FORTRAN-77 DEBUG software.

STRUCTURE OF THIS DOCUMENT

This manual is organized as follows:

- Chapter 1 describes the installation procedures for RSX-11M/M-PLUS.
- Chapter 2 describes the installation procedures for RSTS/E.
- Chapter 3 describes the installation procedures for VAX/VMS under the AME.
- Chapter 4 contains the release notes for Version 1.0.

ASSOCIATED DOCUMENTS

- PDP-11 FORTRAN-77 User's Guide
- PDP-11 FORTRAN-77 Language Reference Manual
- PDP-11 FORTRAN-77 Object Time System Reference Manual
- PDP-11 FORTRAN-77 Installation Guide/Release Notes
- RSX-11M/M-PLUS Task Builder Manual
- RSTS/E System Manager's Guide
- RSTS/E System User's Guide
- RSTS/E Task Builder Reference Manual

CHAPTER 1

RSX-11M/M-PLUS INSTALLATION

This chapter describes the procedures for installing PDP-11 FORTRAN-77 DEBUG on the RSX-11M and RSX-11M-PLUS operating systems. The basic procedure consists of mounting the distribution tape or disk and then copying a command file from the medium and executing it. The command file performs the installation, prompting you for information as it does so. The entire installation takes 15-20 minutes, depending on your system's backload. The debugger task requires up to 300 contiguous disk blocks.

1.1 INSTALLATION PREPARATION

PDP-11 FORTRAN-77 DEBUG consists of three parts: the kernel, the debugger, and the help file. The kernel is an object file linked with the user task at task-build time. The debugger is a separate task that communicates with the user task through the kernel. The help file is part of the debugger.

The kernel, F77DBG.OBJ, may be put in any directory on any device to which DEBUG users have access. The DEBUG user must know where to find the kernel in order to include it in the task build.

The debugger, F77DBG.TSK, may also be put in any directory on any device to which DEBUG users have access. The debugger must be installed as ...D77 for the kernel to be able to communicate with it. The installation procedure installs the debugger automatically after it is built with the options you specify.

You can build the debugger so that it uses either FCS or RMS. The choice should be based on what is available on your system. The choice between FCS and RMS, however, places no restrictions on the user programs to be debugged. That is, no matter which type of file handling you choose for the debugger, the user programs may use either FCS or RMS. You may choose to build with FCS or RMS in your task, or you may build using an FCS resident library.

On an RSX-11M-PLUS system the debugger may also be built to use either an FCS supervisor-mode library or an RMS supervisor-mode library. Using a supervisor-mode library reduces size and overlay activity and, therefore, results in a performance gain.

The help file, F77DBG.HLP, is automatically placed in LB:[1,2] by the installation procedure.

RSX-11M/M-PLUS INSTALLATION Installation Preparation

1.1.1 RSX System Generation Requirements

In order to run the debugger on your system, you must have selected the following options at system generation:

- Send/receive data directives
- Extend task directive
- Stop-bit synchronization

1.2 DISTRIBUTION FILES

The software necessary for building PDP-11 FORTRAN-77 DEBUG on RSX-11 systems is distributed on magnetic tape and disk. The media contain the files described in the following sections. The files are listed under the User File Directory (UFD) on which they reside in the kit.

1.2.1 UFD [1,1]

F77DBG.OBJ Kernel

1.2.2 UFD [1,2]

F77DBG.HLP Help file

1.2.3 UFD [1,54]

RMSDBG.CMD Build command file

RMSDBG.ODL Build ODL

RMSODL.ODL Build RMS ODL

RMSSDB.CMD Build command file

RMSSDB.ODL Build ODL

FCSDBG.CMD Build command file

FCSSDB.CMD Build command file

FCSRDB.CMD Build command file

FCSDBG.ODL Build ODL

F77RMS.OLB DEBUG build library

F77FCS.OLB DEBUG build library

F77DBG.OLB DEBUG build library

**RSX-11M/M-PLUS INSTALLATION
Distribution Files**

1.2.4 UFD [200,200]

DBGBLD.CMD Main installation file
PRGINS.CMD Installation command file
DBGCPY.CMD Installation command file
DBGMTC.CMD Installation command file (magtape)
DBGDSC.CMD Installation command file (disk)
DBGMTD.CMD Installation command file (magtape)
DBGDSD.CMD Installation command file (disk)
DBGVER.CMD Installation command file
DBGMAC.CMD Installation command file
MACTST.MAC Installation verification program
MACTST.CMD Verification program script command file
MACTST.MST Verification log file master

1.3 ALLOCATING AND MOUNTING THE DISTRIBUTION MEDIUM

To install PDP-11 FORTRAN-77 DEBUG, you must log in to a privileged account. If your distribution medium is magtape, allocate and mount the tape by issuing the following commands:

ALL MTxx:
MOU/FCR MTxx: F77DBG

Be sure the device is write-locked.

If your distribution medium is disk, allocate and mount the disk by issuing the following commands:

ALL ddnn:
MOU ddnn: F77DBG

where ddnn is the device name and number. Be sure the device is write-locked.

1.4 EXECUTING THE BUILD COMMAND FILE

To copy the build command file from a magtape distribution medium to your directory, issue the command:

FLX /RS/FA=MTxx:[200,200]DBGBLD.CMD/DO/DNC-nnnn

in which MTxx: is the name of the device, and nnnn is the tape density.

RSX-11M/M-PLUS INSTALLATION
Executing the Build Command File

To copy the build command file from a disk distribution medium to your directory, issue the command:

PIP =ddnn:[200,200]DBGBLD.CMD

where ddnn: is the device name and number.

If you are using a DCL terminal, you must at this point issue the following command:

SET TERM MCR

Once you have the command file in your directory, invoke the build command file with the following command:

@DBGBLD

The build command file asks you to respond to the following items in the order listed. The default values appear within angle brackets; to specify the default, press the RETURN key. Otherwise, type in the value you want. Note that files are not copied to their final areas until the installation procedure is successfully completed.

1. Distribution medium <MT0:> (or <DM0:> for disk distribution)
2. Do you want an FCS debugger? <N>

Do you want the debugger to use an FCS resident library? <N>

Do you want the debugger to use an FCS supervisor mode library? <N>

(These questions appear only if you answer yes to question 2 and are installing DEBUG on an M-PLUS system.)

3. Do you want an RMS debugger? <N> (If you answer yes to question 2, this question is not asked.)

Do you want the debugger to use an RMS supervisor mode library? <N>

(This question appears only if you answer yes to question 3 and are installing DEBUG on an M-PLUS system.)

4. Location of F77DBG.TSK <LB:'<libuic>'- 5. Location of F77DBG.OBJ <LB:[1,1]>
- 6. Store the Installation Verification Program online? <N>

The Installation Verification Program (IVP) consists of a test program MACTST.MAC, a DEBUG test script MACTST.CMD, and a master (DEBUG log file) MACTST.MST. These three files are stored in LB:[1,2] after installation is completed. The following question appears only if you answer yes to question 6.

Location of MACTST <LB:[1,2]>

RSX-11M/M-PLUS INSTALLATION
Executing the Build Command File

7. Purge old versions? <N>

At this point, the command file reviews your answers and displays the specifications you have chosen. You are then given the chance to discontinue the installation procedure if you are dissatisfied with your choices:

8. Do you wish to continue?

If you answered yes to question 8, the distribution files are copied to your directory and installation begins. If you answered no to question 8, you are returned to the CLI and can begin again with the @DBGBLD command.

1.5 INSTALLATION VERIFICATION

Installation verification procedures are performed during the installation. When the debugger prompt appears, specify that you want to run the verification procedures as follows:

DBG>@MACTST

The debugger sends you informational messages as it performs the verification and then displays the DBG> prompt again. Type EXIT or CTRL/Z in response to the prompt.

You then receive a message telling you that installation verification succeeded or failed. If it succeeded, all files are copied to the areas you specified during the installation procedure.

CHAPTER 2

RSTS/E INSTALLATION

This chapter describes the procedures for installing PDP-11 FORTRAN-77 DEBUG on the RSTS/E operating system. The basic procedure consists of mounting the PDP-11 FORTRAN-77 DEBUG distribution medium and building the debugger with the BUILD program. The entire installation takes 15-20 minutes, depending on your system's backload. The debugger task requires up to 300 contiguous disk blocks.

2.1 INSTALLATION PREPARATION

PDP-11 FORTRAN-77 DEBUG consists of three parts: the kernel, the debugger, and the help file. The kernel is an object file linked with the user task at task-build time. The debugger is a separate task that communicates with the user task through the kernel. The help file is part of the debugger.

The kernel, F77DBG.OBJ, may be put in any directory on any device to which DEBUG users will have access. The DEBUG user must know where to find the kernel in order to include it in the task build.

The debugger, F77DBG.TSK, may also be put in any directory on any device to which DEBUG users will have access. The debugger and the user program are started by using the CCL command:

DEBUG userprog

The installation procedure installs the debugger automatically after it is built with the options you specify.

You can build the debugger so that it uses either FCS or RMS. The choice should be based on what is available on your system. The choice between FCS and RMS, however, places no restrictions on the user programs to be debugged. That is, no matter which type of file handling you choose for the debugger, the user programs may use either FCS or RMS.

The help file, F77DBG.HLP, is automatically placed in SY:[1,2] by the installation procedure.

2.2 DISTRIBUTION FILES

The software necessary for building PDP-11 FORTRAN-77 DEBUG on RSTS/E systems is distributed on magnetic tape or disk. The medium contains the files listed in this section. All the files are in PPN [1,2].

RSTS/E INSTALLATION Distribution Files

F77DBG.CTL RSTS BUILD main command procedure
DBGMTC.CMD Installation command file (magtape)
DBGDSC.CMD Installation command file (disk)
FCSDBG.CMD Build command file
FCSDBG.ODL Build ODL
RMSDBG.CMD Build command file
RMSDBG.ODL Build ODL
RMSODL.ODL RMS build ODL
F77DBG.OLB DEBUG build library
F77FCS.OLB DEBUG build library
F77RMS.OLB DEBUG build library
F77DEB.BAS DEBUG program
F77DBG.OBJ Kernel
F77DBG.HLP Help file
DBGBLD.BAS Build query program
DBGVER.BAS Build verification program
EMPTY.CMD Build command file
MACTST.MAC Installation verification program
MACTST.CMD Verification script command file
MACTST.MST Verification log file master
DBGMTD.CMD Build command file (magtape)
DBGDSD.CMD Build command file (disk)

2.3 BUILDING THE DEBUGGER

To install PDP-11 FORTRAN-77 DEBUG, you must log into a privileged account (but preferably not [1,2]). If your distribution medium is magtape, and your current run-time system is DCL, issue the following command:

```
MOU MTxx:/FORMAT=DOS/DENSITY:nnnn/NOWRITE
```

Otherwise, mount the tape by issuing the following command:

```
MOU MTxx:/DOS/DENSITY:nnnn/ONLY
```

where MTxx: is the name of the device and nnnn is the density. Be sure the device is write-locked.

RSTS/E INSTALLATION
Building the Debugger

If your distribution medium is disk, mount the disk by issuing the following command:

MOU ddnn: F77DBG

where ddnn: is the name of the disk. Be sure the device is write-locked.

Then, you use the RSTS/E BUILD program to build (install) the debugger. To start the installation procedure, issue the command:

RUN \$BUILD

Respond as follows to the installation procedure prompts:

System Build <No>?

Source Input Device <SY> ? Enter the device name for the drive on which the distribution medium is mounted.

Library Output Device <SY> ?

Target System Device <SY0>:> ?

Library Account <[1,2]> ?

Control File is ? F77DBG

Function (Build/Patch, Patch, Build)? <BUILD/PATCH> If you mounted the RSTS/E Update Kit or have patched on disk, press to accept the <BUILD/PATCH> default. You can now install and patch the software at the same time. BUILD installs FORTRAN-77 DEBUG properly even if there are no patches to apply.

Patch File Input Location? <SY:[200,200]> Press if you transferred the patches from the distribution medium to account [200,200] on the public disk structure. If not, specify the device and account that contain the patches.

Save Patched Sources? <NO> Accept the NO default by pressing . The installation of FORTRAN-77 DEBUG does not create patched sources. (BUILD may create patched sources when you patch other source code.)

Run-Time System <BASIC> ? or RSX if RSX is the run-time system. If you specify RSX, the following question is asked:

Use the CUSP compiler 'CSPCOM'? <Yes>

Additional Control File <None> ?

The distribution files are now copied to your directory.

RSTS/E INSTALLATION Building the Debugger

At this point, the installation procedure asks you the following specific questions. Answer the questions according to the needs of your system. The default values appear within angle brackets; to specify the default, press the RETURN key. Otherwise, type in the value you want.

1. Location of F77DBG.TSK <SY:[1,2]>?
2. Location of F77DBG.OBJ <LB:>?
3. The following command files may be used to build the debugger:

FCSDBG.CMD - an FCS debugger
RMSDBG.CMD - an RMS debugger

Which command file should be used to build the debugger?
Please choose one of the files listed.

4. Store the Installation Verification Program Online <N>?

The Installation Verification Program (IVP) consists of a test program MACTST.MAC, a DEBUG test script MACTST.CMD, and a master (DEBUG log file) MACTST.MST. These three files are stored in SY:[1,2] after installation is completed.

Location to store MACTST.MAC <SY:[1,2]>?

2.4 INSTALLATION VERIFICATION

Installation verification procedures are automatically performed during the installation. The debugger sends you informational messages as it performs the verification. You receive a message telling you whether installation verification succeeded or failed. If it succeeded, all files are copied to the areas you specified during installation.

CHAPTER 3

VAX/VMS INSTALLATION

This chapter describes the procedures for installing PDP-11 FORTRAN-77 DEBUG on the VAX/VMS operating system under the ABE. The basic procedure consists of mounting the PDP-11 FORTRAN-77 DEBUG distribution medium (TU58 or floppy disk) and invoking the command file that performs the installation. The entire installation requires 15-20 minutes, unless you are using TU58s, in which case the installation may require up to an hour. The debugger task requires up to 300 contiguous disk blocks.

3.1 INSTALLATION PREPARATION

PDP-11 FORTRAN-77 DEBUG consists of three parts: the kernel, the debugger, and the help file. The kernel is an object file that is linked with the user task at task-build time. The debugger is a separate task that communicates with the user task through the kernel. The help file is part of the debugger.

The kernel, F77DBG.OBJ, may be put in any directory on any device to which DEBUG users have access. The DEBUG user must know where to find the kernel in order to include it in the task-build. The VMSINSTAL procedure places F77DBG.OBJ in SYS\$LIBRARY.

The debugger, F77DBG.EXE, is automatically put in SYS\$SYSTEM by the VMSINSTAL installation procedure.

The help file, F77DBG.HLP, is automatically put in SYS\$HELP by the VMSINSTAL installation procedure.

3.2 DISTRIBUTION FILES

The software necessary for building PDP-11 FORTRAN-77 DEBUG on VAX/VMS is distributed on magnetic tape and floppy disks. The distribution media contain the following files:

KITINSTAL.COM	VMSINSTAL Kit installation procedure
F77DBGIVP.COM	Installation verification procedure
F77DBG.EXE	Debugger
F77DBG.OBJ	Kernel
F77DBG.HLP	Help file

**VAX/VMS INSTALLATION
Distribution Files**

MACTST.MAC	Installation verification program
MACTST.CMD	Verification script command file
MACTST.MST	Verification log file master

3.3 USING VMSINSTAL

Before running VMSINSTAL, you must follow the usual procedures for the use of VMSINSTAL:

- Back up the system disk.
- Perform the installation on a stand-alone system.

To install PDP-11 FORTRAN-77 DEBUG, you must log into a privileged account and issue the command

SET DEFAULT SYS\$UPDATE

Then, invoke VMSINSTAL by issuing the following command:

@VMSINSTAL F77DBG010 dev:

dev:

The device on which the distribution medium is to be mounted.

If you are not running stand-alone, VMSINSTAL may respond with messages describing the state of your system and will ask you if you want to continue. Answer "Yes."

If you are running stand-alone, the first question VMSINSTAL asks you is:

Are you satisfied with the backup of your system disk [YES]?

If the answer is positive, press to accept the default, and answer the next question:

Where will the distribution volumes be mounted?

Then answer the next question with a Y:

Are you ready?

Installation begins and VMSINSTAL asks the following questions. Press to accept the default YES or enter N, according to what you want.

Do you want to purge files replaced by this installation [YES]?

Do you want to run the IVP after the installation [YES]?

The Installation Verification Procedure (IVP) is run now, if you have specified it. The IVP, F77DBGIVP.COM, and its associated files are copied to SYS\$HELP for future use or reference.

VAX/VMS INSTALLATION
Using VMSINSTAL

At this point, the distribution files are moved to their target directories, and installation verification begins. You receive informational messages about the verification procedure and notification of whether verification succeeds or fails.

When verification succeeds, you are asked for the name of the next product to be installed. To indicate that you are finished, type **RET** in response to the prompt:

Products [EXIT]:

and then log out.

Installation is now complete.

CHAPTER 4
RELEASE NOTES

There are no release notes for Version 1.0.

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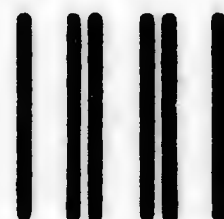
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